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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/801,411	03/08/2001	Darrell Lee Ash	RFMI01-00213	2885

7590 06/24/2004
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EXAMINER

KINKEAD, ARNOLD M

ART UNIT	PAPER NUMBER
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2817

DATE MAILED: 06/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/801,411

Applicant(s)

ASH, DARRELL LEE

Examiner

Arnold M Kinhead

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,8-10,12 and 15-20 is/are rejected.
- 7) ☒ Claim(s) 4,6,7,11,13,14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 103

I. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

II. Claims 1-3, 5,8-10, 12, and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Driscoll(US pat. 5,608,360) of record and further in view of Gu et al(US 6,426,683 of record).

The reference by Driscoll discloses an oscillator circuit that makes use of a SAW resonator(see figure 1, and col. 3, lines 5-20) which provides the suggestion that it is known in the art that SAWR's have a certain amount of parasitic capacitance that may be tuned out. The two port resonator(SAWR,14)(with input and output ports) is shown coupled with inductors (12,13). A load is connected to the output.

The reference does not explicitly describe the inductors as tuning out the parasitic capacitance nor does it show a tunable SAW resonator with varactor. The method steps being inherent.

With regard to the latter idea it is notoriously well known in the art that a resonator may be made adjustable by adding a varactor that allows for tuning adjustments, see the reference by Gu et al, see figure 5, and col. 5, lines 1-20. *The reference by Gu et al discloses a tuning circuit with a SAW resonator(s)(figure 5, 52...) with inductor element(65,67), and varactor(57, variable tuning cap; note this is in series with 52). Low phase noise is achieved by tuning out the stray capacitances with the use of inductor elements. The inductors coupled to ground.*

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In light of the above it would have been obvious for one of ordinary skill in the art to have modified the SAW resonator as shown in Driscoll to include a varactor control, as shown by Gu et al, to allow for the tuning of the resonator as desired. Also, the inductors allowing for compensation against the inherent parasitic capacitances.

Response to Arguments

1. Applicant's arguments filed 01-26-04 have been fully considered but they are not persuasive. The examiner has considered applicant's main concern about negating the parasitics (capacitance) in such resonant circuits as disclosed in Driscoll and Gu et al (of record), however, Gu et al does discuss canceling parasitics, see col. 6, lines 18-25 and thus there is suggestion for removing such parasitics to allow better operation in the resonant filter circuit that is inherently formed by the structure shown. The Driscoll reference seems to note difficulties in doing high frequency compensation, but it does not prevent one of ordinary skill in the art from knowing that looking at Gu et al does in fact suggest a solution with the varactor in the circuit as well.

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Allowable Subject Matter

III. Claims 4 , 6,7, 11,13 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The examiner could not find fair suggestion for the serially connected varactor coupled between the input port and a first port of the resonator and another varactor between the second port and the output port of the resonator; also, no load is suggested with an impedance lower than the stray capacitance...

Conclusion

2. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnold M Kinhead whose telephone number is 571-272-1763. The examiner can normally be reached on Mon-Fri, 8:30 am -5 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on 571-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Arnold M Kinkead
Primary Examiner
Art Unit 2817

Arnold Kinkead
June 16, 2004